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State of Louisiana
Interoperability Subcommittee

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POLICY NAME: NETWORK PATCHING POLICY

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Network Patching and Monitoring Policy

I. Network Patching and Monitoring

Due to the existence of disparate systems in the state of Louisiana the interoperability subcommittee has determined the need for a policy concerning patching these systems to the statewide interoperability network. Generally the patching of the statewide communication system is discouraged due to the potential to over use system resources.

The statewide system manager shall be informed of existing equipment that has the capability of patching to the statewide communication system. This includes devices such as ACU 1000, Motobridge, Control Stations, Central Electronics Bank, etc.

Examples of patches that may need to be made are:

- Cross patch to legacy trunk system
- Cross patch to conventional system
- Patch to a separate frequency band
- Talk group patch within the statewide system
- Patch to cell phones/satellite phone

Patching has the ability to degrade the overall performance of the statewide communication system; however the state recognizes the need. When a patch is made the state encourages agencies to discontinue the patch as soon as possible.

II. Network Patching

Network Patching is the capability to interconnect different radio systems (whether on different channels or modes), or other communication systems.

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Existing radios and channels can be interconnected with the channels of other systems or to other communication sources. More often it will be a need to interconnect to a PBX or other telephone system, cell systems, internet, satellite phones or another agency's communication system.

In most cases network patches can be accomplished through dispatch consoles, or other external devices such as an ACU1000 or Motobridge.

III. Network Patch Communications Request

A. Agency to Statewide Communication System

When an agency needs to perform an agency to the statewide communication system patch that will be accomplished with no outside assistance, the agency must provide the following information to ESF-2:

- Agency requiring network patch
- Reason for request or event type, i.e. hurricane, floods, fire etc.
- Details of the patch to include type of system, frequency or talk group
- All involved agencies requiring interoperability
- Expected duration of event
- Patch Location
- A point of contact
- A phone number to use as a point of contact

B. Agency to the Statewide Communication System requiring assistance

Agencies may request use of the resources from the ESF-2 by providing the following information:

- Agency requiring network patch
- Reason for request or event type, i.e. hurricane, floods, fire etc.
- Details of the patch to include type of system, frequency or talk group
- All involved agencies requiring interoperability
- Equipment required
- Expected duration of event
- Location required/access information
- A point of contact
- A phone number to use as a point of contact

C. Network Patch Deployment Procedure (tactical equipment required)

Upon receiving a request for assistance for the use of a Network Patch and tactical equipment will be deployed, the ESF-2 will be notified and will be responsible for dispatching the tactical equipment to the incident scene.

ESF should follow these deployment procedures:

- Respond to requester with estimated time to retrieve tactical equipment and estimated time to arrive on the incident scene
- Arrange for the tactical equipment to be deployed
- Contact the Incident Commander upon arrival of tactical equipment
- Arrange for the tactical equipment to be set up
- Arrange for the tactical equipment to be removed after the incident is concluded

IV. Network Patch Activation

Some locations may not be equipped with agency radios before the event therefore; all agencies will be required to bring a portable radio to connect to the tactical equipment command center for the length of the operation. Setup and installation of all radios will occur at location of patch. Agencies are also responsible for providing additional power supplies (i.e. spare batteries, chargers, speaker microphones, necessary cables, etc.) for portable radios, as battery life limits usability of the radio (see Network patch Limitations below).

The Incident Commander or designee should follow these procedures in accordance with NIMS (National Incident Management System):

- Avoid using an agency's primary dispatch channel
- Require participating agencies to check in at the command post and provide portable radios and frequency/talk group channels for use during the incident to the Communication Unit Leader
- Assign radio call sign/designator information to connected agencies
- Instruct ESF-2 on where to setup and operate the tactical equipment if assigned
- Inform ESF-2 which agencies are participating
- Provide ESF-2 with agency provided radios and frequency/talk group channels to be used during the incident
- Confer with ESF-2 concerning what command level or other specific talk groups that need to be programmed into the network patch

The ESF-2 should follow these procedures:

- Arrange to obtain agency radios and connect to the patch with associated cables
- Select the channel or talk group assigned by the agency
- Assign the requested unit/agency to that channel or talk group as designated by the Incident Commander

Participating agencies are to follow these procedures for the duration of the network patch:

- Agencies should follow procedures and policies already established for their shared systems
- If an individual responder needs to talk to an agency with which they do not otherwise have communications, the responder notifies their local dispatch center that they need to operate on a pre determined shared channel/talk group. Local dispatch center supervisor will determine the appropriate channel/talk group
- For an extended incident, the local dispatch center is responsible for notifying the appropriate agency in accordance with their existing plan, that an interoperability channel/talk group is in use
- When a responder is dispatched to an incident, each local dispatch center is responsible for notifying responders which interoperability channel(s)/ talk group(s) is (are) being used for the incident
- The Incident Commander determines when the interoperability channel/talk group is no longer required and notifies their local dispatch center

V. Network Patch Deactivation

When interoperable communications are no longer required, agencies should follow these guidelines.

The Incident Commander or designee:

- Make an announcement on the command channel to all commanders to advise them the network patch is being deactivated
- Contact the ESF-2 or console operator to shut down the network patch

Participating agencies:

- Individual agencies are responsible for retrieving the portable radio and associated equipment provided during the operation.

The ESF:

- Assure agencies retrieve all portable radios
- Take inventory of equipment and note any needing repair or replacement
- Return to pre-response storage location and make the tactical equipment ready for service

VI. Problem ID and Resolution

If an issue or problem is identified during the network patch, the ESF-2 shall determine who will take corrective action. If the issue or problem can not be identified, the ESF-2 shall contact the appropriate technical personnel or Parish NCC to address the issue or problem.

Any problems discovered during the patch shall be resolved in the following manner:

- The local dispatch center having jurisdiction over the location of the incident reports any problems experienced to the system provider (the agency operating the radio system).
- The Communications Unit Leader will be responsible for ensuring effective resolution to problems that exist with interoperability resources, and notify the local dispatch center of the issues' resolution.

The following guidelines shall govern network patch problem identification and resolution between agencies:

- The ESF-2 reports any problems experienced to the Communications Unit Leader. Agencies using network patches may also report any problems experienced
- The Communications Unit Leader will be responsible for ensuring effective resolution to problems that exist with interoperability resources, and notify the local dispatch center of the issues' resolution

VII. Network Patch Test Procedures

To ensure that equipment components of the network patch operate properly, each agency will test their resources according to their agency's individual policies and procedures. Below are recommended procedures:

- Representatives from each agency should meet on a regular basis to test communications
- Testing should include deployment, setup, operation, and deactivation of the network patch
- Agency representatives should arrive at the test location to test their ability to communicate with other agencies utilizing the patch.

VIII. Network patch Limitations

The interoperability provided through the network patches have the ability to link participating agencies, but has the following limitations:

- Battery life of portable radios has a limited time of use: these are designed to enable interoperable communications for short duration events or until a mobile command vehicle arrives. In the event that the network patch will need to be used for an extended period of time, precautions such as an additional power supplies, personal radio chargers, or other provisions should be considered
- Home system coverage may limit communications: All units utilizing the network patch will be operating in a simplex or non-repeated mode once they arrive on the scene and during emergency response operations. Access to repeaters of an agency's home system while en- route to or while on the scene of the incident will be dependent on the coverage of their home system. Alternate methods of communication (e.g., use of a cellular phone, satellite systems, internet etc.) may be required to communicate with your agency's home system if you are outside the coverage of your home system
- Interoperability connectivity needs to be planned in advance: For agencies to have interoperability on the scene of an incident they would need to have provided a portable radio, cable and other peripherals in advance or provide them on the scene of the incident
- Frequency conflicts/interference issues- In regions where multiple mobile gateway devices are accessible, it is critical that the use of these devices be closely coordinated to ensure that multiple systems do not "step-on" each other. These interference issues often occur when communications vehicles are placed in the same staging area and multiple network patches are activated
- Additional Planning Needed: Agencies not included in the list of participating agencies will require additional planning to establish interoperable communications: Agencies not included in the table cannot establish direct interoperable communications with the network patch connected agencies without additional planning
- Alert Beacon: Automatic emergency notification alarms ("Man-down button") may not work properly if outside of parent agency coverage area
- Access Delay - Time Clipping: Transmission and reception delays may occur during the use of console patching which may affect on-scene communications. Users will need to push-to-talk, pause three seconds and then transmit information since there may be a 2-3 second delay

The interoperability provided through the network patch has the ability to link participating agencies but has the following limitations:

- Deployment time for a mobile gateway is typically one (1) hour mobilization time, one (1) hour on-scene setup time plus travel time to the incident scene. On-scene setup time can be significantly shortened by pre-planning

IX. Interoperability Channel Monitoring

All agencies' dispatch/radio communications centers will monitor the intra-jurisdictional interoperability channel. Once it is activated, all dispatch/radio communications centers will be required to monitor the channel on a priority basis until its use is discontinued.